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Calendar No. 566

101ST CONGRESS *2d Session*	SENATE	REPORT 101-304

INDOOR AIR QUALITY ACT OF 1990

REPORT

OF THE

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS UNITED STATES SENATE

TO ACCOMPANY

S. 657

MAY 24, (legislative day, APRIL 18), 1990.—Ordered to be printed

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101ST CONGRESS
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SENATE

REPORT
101-304

INDOOR AIR QUALITY ACT OF 1990

MAY 24 (legislative day, APRIL 18), 1990.—Ordered to be printed

Mr. BURDICK, from the Committee on Environment and Public Works, submitted the following

REPORT

[To accompany S. 657]

The Committee on Environment and Public Works, to which was referred the bill (S. 657) to authorize a national program to reduce the threat to human health posed by exposure to contaminants in the air indoors, having considered the same, reports favorably thereon with amendments and recommends that the bill as amended do pass.

GENERAL STATEMENT

The Indoor Air Quality Act (S. 657) provides for expansion of research on indoor air contaminants, development and coordination of Federal indoor air quality programs, assistance to State indoor air quality programs, and expansion of programs to assess "sick buildings." The bill is very similar to S. 1629 reported by the Environment and Public Works Committee late in the last Congress.

BACKGROUND SUMMARY

There is growing evidence that exposure to contaminants in the air indoors poses a significant health threat. Testimony from witnesses at hearings in May of last year and in the last Congress indicates that—

—exposure to air pollutants occurs both outdoors and indoors (e.g. workplaces, residences, schools, public buildings, and transportation vehicles);

—pollutants in the indoor air include radon, asbestos, volatile organic compounds (e.g. formaldehyde, benzene), combustion by-products (e.g. carbon monoxide, carbon dioxide), metals

and gases (e.g. lead, chlorine, ozone), tobacco smoke and respirable particles;
—radon is the most harmful indoor air pollutant. EPA estimates that radon causes between 5,000 and 20,000 lung cancer deaths each year;
—other indoor air contaminants cause between 3,500 and 6,500 cancers each year, EPA estimates;
—sources of these pollutants include commercial products, building materials, combustion appliances, indoor application of pesticides, and outdoor sources;
—other health effects of indoor air contaminants include skin and eye irritation, respiratory function impairment, allergic and infectious diseases, neurotoxicity, immune effects, liver and kidney effects, and developmental effects;
—the health effects of indoor air pollutants result in substantial costs to society in the form of reduced productivity, sick time, health care costs, and disability costs estimated to be in the tens of billions of dollars;
—a number of Federal agencies are involved in indoor air programs including the EPA, Consumer Product Safety Commission, Department of Energy, Department of Health and Human Services, and others; and
—a number of States have developed programs to address radon and, to a more limited extent, other indoor air pollutants.

Other witnesses at the hearing last year represented public interest groups (e.g. the Consumer Federation); labor (e.g. the American Federation of Government Employees); industry (e.g. the Business Council on Indoor Air); and building owners (e.g. the Building Owners and Managers Association).

Recent scientific studies provide evidence that a wide range of contaminants in the air indoors pose a significant threat to human health.

In September of last year, the EPA published a major assessment of the indoor air quality issue in response to section 403(e) of the Superfund Amendments of 1986. Although the EPA has opposed S. 657, the report indicates that indoor air pollution is a serious problem and suggests substantial new initiatives to respond to the problem. The report states—

> . . . indoor air pollution represents a major portion of the public's exposure to air pollution and may pose serious acute and chronic health risks. This evidence warrants an expanded effort to characterize and mitigate this exposure.

The report further states—

> . . . the information available suggests that exposure to indoor air pollutants poses a significant health threat to the domestic population.

Contained in the report is a proposed detailed research agenda for the next five years, including exposure assessment, research on health effects, control techniques, and building systems. The estimated cost of this research over the five year period is $99.15 mil-

lion. This estimate is consistent with the five year authorization for research in S. 657 of $100 million.

Also provided in the report is a detailed review of the health effects of indoor air contaminants and includes new assessments of the costs of indoor air contamination.

The report documents the wide range of indoor air contaminant health effects stating—

> Health effects from indoor air pollution cover the range of acute and chronic effects and include eye, nose, and throat irritation, respiratory effects, neurotoxicity, kidney and liver effects, heart functions, allergic and infectious disease, development effects, mutagenicity, and carcinogenicity.

The report concludes—

> . . . the information available suggests that exposure to indoor air pollutants poses a significant health threat to the domestic population.

The EPA report provides data on the lethal effects of several specific, carcinogenic contaminants. Human exposure to radon gas is cited as causing between 5,000 and 20,000 lung cancer deaths each year. The report cites studies estimating that between 1,000 and 5,000 lung cancer deaths each year are due to indoor exposure to six specific volatile organic chemicals. The report also cites studies estimating an additional 2,500 to 5,200 deaths each year from exposure to environmental tobacco smoke.

The report reviews the issues associated with "sick building syndrome" and multiple chemical sensitivities concluding—

> Building sickness, such as sick building syndrome, building related illness, and multiple chemical sensitivity are issues of potentially great significance but are poorly understood.

The annual national costs of medical care resulting from indoor air pollution are estimated at over $1 billion. The report qualifies this statement, noting—

> These estimates do not include the costs of many potential illnesses and indoor air pollutants . . . due to limited quantification of health impacts for these pollutants . . .

The report also cites the costs associated with employee sick days and reduced productivity due to indoor air illness. Using the same conservative assumptions used to calculate direct medical costs, the report estimates costs of reduced productivity at between $4.4 and $5.4 billion annually.

Citing more comprehensive studies of productivity declines, the study states—

> . . . productivity losses may be on the order of tens of billions of dollars per year.

In December of 1989, the EPA published the results of studies of environmental priority setting in three regions of the country where indoor air pollution was recognized as a serious problem. EPA concluded—

> . . . risk associated with most environmental problems does not differ much across the (geographic) areas studied. For example, indoor air pollution consistently causes greater health risks than hazardous waste sites whether one is concerned with New England, the Middle Atlantic region, or the Pacific Northwest. Such consistent findings should play an important role in setting national environmental priorities.

In March of 1989, a coalition of major public interest groups and insurance agencies issued a national consumer agenda highlighting seven key national issues, including indoor air quality. The report reviews the health threats posed by indoor air pollution and endorses the approach to indoor air quality taken by S. 1629.

In September 1988, EPA issued a major report on indoor air quality in public buildings. The summary of the report states—

> VOCs (volatile organic chemicals) are ubiquitous indoors . . . About 500 different chemicals were identified in just four buildings . . . Almost every pollutant was at higher levels indoors than out . . . New buildings had levels of some chemicals that were 100 times higher than outdoor levels.

In 1987, the EPA published a comprehensive, four volume, multiyear study of total exposure to air pollutants which concluded that exposure to indoor air pollutants is significant relative to exposure to air pollutants in the ambient air. The report states—

> The major finding of this study is the observation that personal and indoor exposures to these toxic and carcinogenic chemicals are nearly always greater—often much greater—than outdoor concentrations. We are led to the conclusion that indoor air in the home and at work far outweighs outdoor air as a route of exposure to these chemicals.

Indoor Air Quality Act

Congress has addressed indoor air quality problems in the past several years. The 99th Congress enacted bills to establish a program of research on radon and indoor air pollutants at the EPA and to establish a national program to control asbestos in schools. The 100th Congress enacted legislation addressing radon and considered legislation to control asbestos in buildings and addressed indoor air generally.

The Indoor Air Quality Act of 1989 (S. 657) was introduced on March 17, 1989, by Senators Mitchell, Chafee, Lautenberg, Durenberger, Baucus, Moynihan, Reid, Lieberman, and others. This legislation is based on the bill originally introduced by Senator Mitchell in August of 1987 (S. 1629) and reported by the Committee in 1988. Companion legislation to S. 657 was introduced in the House of Representatives by Congressman Joseph P. Kennedy.

S. 657, which is very similar to the bill reported by the Committee in 1988, establishes a national program to reduce the threat to health posed by exposure to contaminants in the air indoors.

The basic principles reflected in the bill are—

—*Emphasis on Research.*—A primary objective of the bill is to expand and strengthen research of indoor air contaminants.

—*Identify Contaminant Health Effects.*—EPA would develop "health advisories" on contaminants in the indoor air indicating the health risks at various concentrations. The bill does not provide for setting enforceable standards for indoor air contaminants.

—*No New Regulatory Authority.*—There is no new authority to "regulate" indoor air contaminants, but the authorities in existing statutes are to be focused and directed in a "national response plan." The bill requires the development of information such as health advisories and technical bulletins to inform Americans of the health threat from indoor air contaminants. It does not require that actions be taken in individual homes to mitigate the effects of such contaimnants.

—*Demonstrate State Role.*—States may seek grant support to demonstrate development of very basic management strategies and assessments and have the option of developing problem specific response programs.

—*Establish Institutional Base.*—An institutional base for indoor air activities is established through creation of an indoor air office at EPA and an interagency Indoor Air Council to coordinate efforts of different agencies.

—*Preserve Other Initiatives.*—The bill is designed as a general management framework. It does not preempt the development of additional pollutant specific legislation (e.g. radon, asbestos), and does not preempt State laws or initiatives.

S. 657 as originally introduced included a number of significant changes developed through the mark-up process in the last Congress including a new section addressing the problem of "sick buildings," clarification of requirements for public involvement, a new requirement for development of technology bulletins, and reduction of the authorized funding from $58 to $49.5 million.

The Subcommittee on Superfund, Ocean, and Water Protection approved amendments to S. 657 in November 1989. These amendments make a number of changes and clarifications to S. 657 based on the testimony of witnesses and comments from interested persons. Changes to S. 657 approved by the Subcommittee, and subsequently by the full Committee, include—

—increased attention to the health effects of indoor air contaminants on sensitive populations and the chemically sensitive;

—expansion of provisions related to ventilation and ventilation standards including a study of the adequacy of existing standards and support for development of ventilation standards by State and local governments;

—expansion of provisions related to building management and reduction of indoor air pollution in buildings, including development of building management training courses and designation of indoor air quality managers for Federal buildings;

—clarification of the role of health advisories in identifying the health effects of contaminants at a full range of concentrations and deletion of the requirement for health advisories to

identify the concentration level at which there is no known or anticipated adverse health effect;
—clarification of the objective of the national indoor air quality response plan and the Federal building response plan which is to reduce contaminants to levels which are protective of public health;
—expansion and clarification of the responsibilities of OSHA and NIOSH, including responsibilities for indoor air research, implementation of worker related response actions under the national response plan, and representation on advisory panels; and
—requirement for assessment of options for Federal oversight of firms engaged in the measurement or mitigation of indoor air quality problems.

Section-by-Section Analysis

A section-by-section description of the bill as reported follows:

Sec. 1. *Title.*—The title of the bill and table of contents are identified.

Sec. 2. *Findings.*—Contaminants in the air indoors pose a serious threat to human health. Federal and State governments have not responded adequately to this problem.

Sec. 3. *Purposes.*—The purpose of the legislation is to establish a coordinated research program on indoor air contamination, to institute a process for directing and focusing the authorities of existing Federal statutes to reduce indoor air contamination, and to demonstrate and develop State and local responses to indoor air contamination problems.

Sec. 4. *Definitions.*—Key terms are defined.

Sec. 5. *Indoor Air Quality Research.*—The legislation provides the EPA and other agencies with general authority to conduct research on indoor air contamination and identifies specific research topics to be addressed. The authority provided in the bill is intended as a general mandate for cooperative research by the EPA and other Federal agencies and does not prevent or preclude research by other Federal agencies on indoor air issues. In implementing such research, the Administrator should develop guidelines concerning the size, design and usage of structures.

The bill establishes a program to demonstrate various technologies which may contribute to the reduction of indoor air contamination and provides grant assistance to governments and others for such demonstrations.

Section 5(e) provides for a report to Congress on the subject of chemical sensitivity disorders, including multiple chemical sensitivities. The study should address the underlying causes of sensitivity disorders and should—identify the prevalence, severity and etiology of these illnesses; survey and assess of policies of Federal agencies; summarize past research and identify future research needs; asses treatment and avoidance methods; assess the needs of persons with such illnesses (including economic, social, phycological, housing, employment, and legal); and make recommendations for actions by government agencies and others to prevent and respond to such illnesses.

Sec. 6. *Management Practices and Ventilation Standards.*—The bill calls for the development of technical and management practice bulletins providing assessments of technologies for controlling and measuring indoor air contaminants. The Administrator is to provide that technology and management practice bulletins are reviewed by the public and interested groups prior to publication and assure that groups with knowledge and expertise in building design, management, and construction have an opportunity to participate in their development.

The bill also provides for the Director of the National Institute for Occupational Health and Safety, in consultation with the Administrator, to develop an indoor air quality training course for managers of Federal and other buildings. Training courses are to address methods of building management to reduce indoor air contamination.

The Administrator is to conduct a program to analyze the adequacy of existing ventilation standards and guidelines to protect public health and report to the Congress within 36 months.

Sec. 7. *Indoor Air Contaminant Health Advisories.*—The bill provides that the EPA will develop a list of indoor air contaminants and health advisory documents for the contaminants. In considering respirable contaminants, the Administrator should give particular attention to particulate matter which is of a respirable size.

Health advisory documents are to include descriptions of the characteristics of each contaminant and health threats posed at various concentrations. The EPA is to issue 6 advisories within 18 months of the date of enactment and an additional 6 advisories within the next 18 months.

The Agency is to use the latest available scientific information and research in developing the health advisories and is to explain the bases for the anticipated health effects described (e.g. indicate when anticipated health effects at low concentrations are extrapolations from health effects observed at higher concentrations rather than observed health effects at the low concentrations). The scientific studies on which the advisories are based are to be referenced in the documents.

Although the listing of contaminants is not an Agency rulemaking, public notice and comment shall be provided with consideration of public comments before the issuance of a final list of contaminants.

Sec. 8. *National Indoor Air Quality Response Plans.*—The EPA is to develop a national response plan identifying actions to be taken to reduce contaminants in indoor air. The plan is to identify and schedule needed actions pursuant to the authority in existing statutes and to provide information, education, and technical assistance to reduce indoor air contamination. The response plan is to provide for attainment of contaminant levels which are protective of human health to the fullest extent practicable, taking into account available technology and the economic implications of such measures. The plan is to be submitted to Congress within 24 months of enactment of this Act and biennially thereafter.

Sec. 9. *Federal Building Response Plan/Demonstration Program.*—A Federal Building Response Plan is to address air quality in Federal buildings. The plan is to identify general management

practices for improving indoor air. Buildings with identified indoor air quality problems are to be considered for assessment under section 14 of this Act. The plan is to be submitted to Congress 24 months after enactment of the Act and biennially thereafter.

Sec. 10. *State and Local Indoor Air Quality Programs.*—The bill provides grants to States for demonstrating indoor air quality management and assessment strategies. Each State is to identify a lead agency for protecting indoor air quality, describe existing programs at the State and substate levels, and assure coordination with programs addressing ambient air quality. State assessment programs are to identify contaminants of concern by geographic areas experiencing problems and provide for periodic assessments of indoor air conditions and trends.

States or other air pollution control agencies also may develop response programs to address a particular indoor air contaminant, class of buildings, or buildings in a specific geographic area.

Sec. 11. *Office of Indoor Air Quality.*—An Office of Indoor Air Quality is established within the EPA to manage indoor air activities and to work with other Federal agencies.

Sec. 12. *Council on Indoor Air Quality.*—The bill establishes an interagency Council on Indoor Air Quality to coordinate the indoor air activities of Federal agencies.

Sec. 13. *National Indoor Air Quality Information Clearinghouse.*—The EPA is to establish a national information clearinghouse on indoor air quality.

Sec. 14. *Building Assessment Demonstration.*—The Director of the National Institute of Occupational Safety and Health (NIOSH) is to carry out a program to demonstrate methods of assessment and mitigation of indoor air contamination in "sick buildings." This provision establishes a process for the assessments and is based on an existing NIOSH effort.

Sec. 15. *State and Federal Authority.*—Nothing in this title shall preempt any State or Federal law or local ordinance.

Sec. 16. *Authorizations.*—The bill authorizes total funding of $48.5 million for each fiscal year from 1990 to 1994 including—

—$20 million for research and health advisories,
—$10 million for EPA operations,
—$12 million for State management and response grants,
—$1.5 million for the National Indoor Air Quality Council, and
—$5 million for the building assessment program.

Hearings

The Subcommittee on Superfund, Ocean, and Water Protection held a hearing on S. 657 on May 3, 1989. Testifying were representatives from the Federal Government, business associations, employee unions, and private citizens.

Rollcall Votes

Section 7(b) of rule XXVI of the Standing Rules of the Senate and the rules of the Committee on Environment and Public Works provide that any rollcall votes taken during the consideration of this bill be announced in this report.

On November 14, the Subcommittee on Superfund, Ocean, and Water Protection agreed to amendments to S. 657 and reported the bill to the full Committee. The Committee on Environment and Public Works considered the bill at a meeting on April 24, 1990 and ordered the bill reported to the Senate by voice vote without further amendment. No rollcall votes were taken during consideration of this bill.

Regulatory Impact

In compliance with section 11(b) of rule XXVI of the Standing Rules of the Senate, the Committee makes the following evaluation of the regulatory impact of the reported bill. The reported bill does not include any new regulatory authority.

Cost of Legislation

Section 403 of the Congressional Budget and Impoundment Control Act requires that each bill contain a statement of the cost of such bill prepared by the Congressional Budget Office. That report follows:

U.S. Congress,
Congressional Budget Office,
Washington, DC, April 30, 1990.

Hon. Quentin N. Burdick,
Chairman, Committee on Environment and Public Works,
U.S. Senate, Washington, DC.

Dear Mr. Chairman: The Congressional Budget Office has prepared the attached cost estimate for S. 657, the Indoor Air Quality Act of 1989.

If you wish further details on this estimate, we will be pleased to provide them.

Sincerely,

Robert D. Reischauer,
Director.

1. Bill number: S. 657.

2. Bill title: Indoor Air Quality Act of 1989.

3. Bill status: As ordered reported by the Senate Committee on Environment and Public Works, April 24, 1990.

4. Bill purpose: S. 657 would establish a national research, development, and demonstration program to address indoor air pollution. Overseeing the program would be a newly established Office of Indoor Air Quality within the Environmental Protection Agency (EPA). The bill would also establish a Council on Indoor Air Quality to coordinate federal activities and review the national indoor air response program developed by EPA. For the purposes of establishing the new office and council and carrying out mandated activities, the bill would authorize appropriations of up to $48.5 million for each of the fiscal years 1990 through 1994. Of this amount $12 million annually would be available to states wishing to develop and implement their own air quality programs.

5. Estimated cost to the Federal Government:

(By fiscal year, in millions of dollars)

	1990	1991	1992	1993	1994
Authorization level	49	49	49	49	49
Less: 1990 appropriation	−5				
Net Authorizations	43	49	49	49	49
Estimated outlays		47	49	49	49

The costs of this bill fall within budget function 300.

Basis of estimate: For the purpose of this estimate, it is assumed that S. 657 will be enacted late in fiscal year 1990 and that the full amounts authorized will be appropriated for each fiscal year. CBO has assumed that amounts authorized for fiscal year 1990 would be appropriated too late in the year to result in any additional outlays in 1990. Outlays have been estimated on the basis of historical spending patterns for similar programs and on information obtained from EPA.

6. Estimated cost to State and local governments: None.

7. Estimate comparison: None.

8. Previous CBO estimate: On January 23, 1990, the Congressional Budget Office prepared an estimate of the cost of S. 657 as ordered reported by the Subcommittee on Superfund, Ocean and Water Protection of the Senate Committee on Environment and Public Works, November 14, 1989. The costs estimated for that version of the bill were the same as those projected for this version.

9. Estimate prepared by: Deborah Reis and Laura Carter.

10. Estimate approved by: C.G. Nuckols, for James L. Blum, Assistant Director for Budget Analysis.

S. 657, as Reported

A BILL To authorize a national program to reduce the threat to human health posed by exposure to contaminants in the air indoors.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SHORT TITLE AND TABLE OF CONTENTS

Section 1. Title.—(a) This Act, together with the following table of contents, may be cited as the "Indoor Air Quality Act of 1990".

(b) Table of Contents.—

Sec. 1. Short title and table of contents.
Sec. 2. Findings.
Sec. 3. Purpose.
Sec. 4. Definitions.
Sec. 5. Indoor air quality research.
Sec. 6. Management practices and ventilation standards.
Sec. 7. Indoor air contaminant health advisories.
Sec. 8. National indoor air quality response plans.
Sec. 9. Federal building response plan and demonstration program.
Sec. 10. State indoor air quality programs.
Sec. 11. Office of Indoor Air Quality.
Sec. 12. Council on Indoor Air Quality.
Sec. 13. Indoor air quality information clearinghouse.
Sec. 14. Building assessment demonstration.
Sec. 15. State and Federal authority.
Sec. 16. Authorizations.

FINDINGS

SEC. 2. The Congress finds that—

(1) Americans spend up to 90 per centum of a day indoors and, as a result, have a significant potential for exposure to contaminants in the air indoors;

(2) exposure to indoor air contamination occurs in workplaces, schools, public buildings, residences, and transportation vehicles;

(3) recent scientific studies indicate that pollutants in the indoor air include radon, asbestos, volatile organic chemicals (including, formaldehyde and benzene), combustion byproducts (including, carbon monoxide and nitrogen oxides), metals and gases (including, lead, chlorine, and ozone), respirable particles, environmental tobacco smoke, biological contaminants, microorganisms, and other contaminants;

(4) a number of contaminants found in both ambient air and indoor air may occur at higher concentrations in indoor air than in outdoor air;

(5) indoor air pollutants pose serious threats to public health (including cancer, respiratory illness, multiple chemical sensitivities, skin and eye irritation, and related effects);

(6) up to 15 per centum of the United States population may have heightened sensitivity to chemicals and related substances found in the air indoors;

(7) radon is among the most harmful indoor air pollutants and is estimated to cause between five thousand and twenty thousand lung cancer deaths each year;

(8) other selected indoor air pollutants are estimated to cause between three thousand five hundred and six thousand five hundred additional cancer cases per year;

(9) indoor air contamination is estimated to cause significant increases in medical costs and declines in work productivity;

(10) as many as 20 per centum of office workers may be exposed to environmental conditions manifested as "sick building syndrome";

(11) sources of indoor air pollution include conventional ambient air pollution sources, building materials, consumer and commercial products, combustion appliances, indoor application of pesticides and other sources;

(12) there is not an adequate effort by Federal agencies to conduct research on the seriousness and extent of indoor air contamination, to identify the health effects of indoor air contamination, and to develop control technologies, education programs, and other methods of reducing human exposure to such contamination;

(13) there is not an adequate effort by Federal agencies to develop response plans to reduce human exposure to indoor air contaminants and there is a need for improved coordination of the activities of these agencies;

(14) there is not an adequate effort by Federal agencies to develop methods, techniques, and protocols for assessment of indoor air contamination in non-residential, non-industrial

buildings and to provide guidance on measures to respond to contamination; and

(15) State governments can make significant contributions to the effective reduction of human exposure to indoor air contaminants and the Federal Government should assist States in development of programs to reduce exposures to these contaminants.

PURPOSE

SEC. 3. The purposes of this Act are to—

(1) establish at the Environmental Protection Agency and at other departments and agencies of the United States a comprehensive program of research and development concerning the seriousness and extent of indoor air contamination, the human health effects of indoor air contaminants, and the technological and other methods of reducing human exposure to such contaminants;

(2) establish a process whereby the existing authorities of Federal statutes will be directed and focused to assure the full and effective application of these authorities to reduce human exposure to indoor air contaminants where appropriate;

(3) provide support to State governments to demonstrate and develop indoor air quality management strategies, assessments, and response programs; and

(4) to authorize activities to assure the general coordination of indoor air quality-related activity, to provide for reports on indoor air quality to Congress, to provide for assessments of indoor air contamination in specific buildings by the National Institute for Occupational Safety and Health, to assure that data and information on indoor air quality issues is available to interested parties, to provide training, education, information, and technical assistance to the public and private sector, and for other purposes.

DEFINITIONS

SEC. 4. For the purposes of this Act, the term—

(1) "Agency" means the United States Environmental Protection Agency;

(2) "indoor" refers to the enclosed portions of buildings including non-industrial workplaces, public buildings, Federal buildings, schools, commercial buildings, residences, and the occupied portions of vehicles;

(3) "indoor air contaminant" means any solid, liquid, semisolid, dissolved solid, biological organism, aerosol, or gaseous material, including combinations or mixtures of substances in indoor air which may reasonably be anticipated to have an adverse effect on human health;

(4) "Federal agency" or "agency of the United States" means any department, agency or other instrumentality of the Federal Government, including any independent agency or establishment of the Federal Government or government corporation;

(5) "Federal building" means any building which is used primarily as an office building, school, hospital, or residence that

is owned, leased, or operated by any Federal agency and is over ten thousand square feet in area and any building occupied by the Library of Congress;

(6) "Administrator" means to the Administrator of the Environmental Protection Agency;

(7) "Administration" means the Occupational Safety and Health Administration;

(8) "Director" means the Director of the National Institute of Occupational Safety and Health;

(9) "local education agency" means any educational agency as defined in section 198 of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 3381); and

(10) "local air pollution control agency" means any city, county, or other local government authority charged with the responsibility for implementing programs or enforcing ordinances or laws relating to the prevention and control of air pollution including indoor air pollution.

INDOOR AIR QUALITY RESEARCH

SEC. 5. (a) AUTHORITY.—(1) The Administrator shall, in cooperation with appropriate Federal agencies, establish a national research, development, and demonstration program to assure the quality of air indoors and as part of such program shall promote the coordination and acceleration of research, investigations, experiments, demonstrations, surveys, and studies relating to the causes, sources, effects, extent, prevention, detection, and correction of contamination of indoor air.

(2) In carrying out the provisions of this section, the Administrator is authorized to—

(A) collect and make available to the public through publications and other appropriate means, the results of research, development and demonstration activities conducted pursuant to this section;

(B) conduct research, development and demonstration activities and cooperate with other Federal agencies, with State and local government entities, interstate and regional agencies, other public agencies and authorities, nonprofit institutions and organizations and other persons in the preparation and conduct of such research, development and demonstration activities;

(C) make grants to the States or to local government entities, to other public agencies and authorities, to nonprofit institutions and organizations, and to other persons;

(D) enter into contracts or cooperative agreements with public agencies and authorities, nonprofit institutions and organizations, and other persons;

(E) conduct studies, including epidemiological studies, of the effects of indoor air contaminants or potential contaminants on mortality and morbidity and clinical and laboratory studies on the immunologic, biochemical, physiological, and toxicological effects including the carcinogenic, teratogenic, mutagenic, cardiovascular, and neurotoxic effects of indoor air contaminants or potential contaminants;

(F) develop and disseminate informational documents on indoor air contaminants describing the nature and characteristics of such contaminants in various concentrations;

(G) develop effective and practical processes, methods, and techniques for the prevention, detection, and correction of indoor air contamination and work with the private sector to encourage the development of innovative techniques to improve indoor air quality;

(H) construct such facilities and staff and equip them as may be necessary to carry out the provisions of this section;

(I) call conferences concerning the potential or actual contamination of indoor air giving opportunity for interested persons to be heard and present papers at such conferences;

(J) utilize, on a reimbursable basis, facilities and personnel of existing Federal scientific laboratories and research centers; and

(K) acquire secret processes, technical data, inventions, patent applications, patents, licenses, and an interest in lands, plants, equipment and facilities and other property rights, by purchase, license, lease, or donation.

(b) PROGRAM REQUIREMENTS.—The Administrator shall conduct, assist, or facilitate research, investigations, studies, surveys, or demonstrations with respect to, but not limited to, the following—

(1) the effects on human health of contaminants or combinations of contaminants at various levels whether natural or anthropogenic including additive, cumulative, and synergistic effects on both healthy individuals and sensitive populations, that are found or are likely to be found in indoor air;

(2) the exposure of persons to contaminants that are found in indoor air (including exposure to such substances from sources other than indoor air contamination including drinking water, diet, or other exposures);

(3) the identification of populations at increased risk of illness from exposure to indoor air contaminants and assessment of the extent and characteristics of such exposure;

(4) the exposure of persons to contaminants in different building classes or types, and in vehicles, and assessment of the association of particular contaminants and particular building classes or types and vehicles;

(5) identification of building classes or types and design features or characteristics which increase the likelihood of exposure to indoor air contaminants;

(6) identification of the sources of indoor air contaminants including association of contaminants with outdoor sources, building or vehicle design, classes or types of products, building management practices, equipment operation practices, building materials, and related factors;

(7) assessment of relationships between contaminant concentration levels in ambient air and the contaminant concentration levels in the indoor air;

(8) development of methods and techniques for characterizing and modeling indoor air movement and flow within buildings or vehicles, including the transport and dispersion of contaminants in the indoor air;

(9) assessment of the fate, including degradation and transformation, of particular contaminants in indoor air;

(10) development of methods and techniques to characterize the association of contaminants, the levels of contaminants, and the potential for contamination of new construction with climate, building location, seasonal change, soil and geologic formations, and related factors;

(11) assessment of indoor air quality in facilities of local education agencies and buildings housing child care facilities and development of measures and techniques for control of indoor air contamination in such buildings;

(12) development of methods, techniques and instruments for sampling indoor air to determine the presence and level of contaminants including sample collection and the storage of samples before analysis and development of methods to improve the efficiency and reduce the cost of analysis;

(13) development of air quality sampling methods and instruments which are inexpensive and easy to use and may be used by the general public;

(14) development of control technologies, or other measures, to prevent the entrance of contaminants into buildings or vehicles (for example, air intake protection, sealing, and related measures) and to reduce the concentrations of contaminants indoors (for example, control of emissions from internal sources of contamination, improved air exchange and ventilation, filtration, and related measures);

(15) development of materials and products which may be used as alternatives to materials or products which are now in use and which contribute to indoor air contamination;

(16) development of building or vehicle management practices and related activities which will contribute to the reduction of indoor air contaminants;

(17) development of equipment and processes for removal of contaminants from the indoor air;

(18) research, to be carried out in conjunction with the Occupational Safety and Health Administration and the National Institute for Occupational Safety and Health, for the purpose of assessing—

(A) the exposure of workers to indoor air contaminants including assessment of resulting health effects; and

(B) the costs of declines in productivity, sick time use, increased use of employer-paid health insurance, and worker compensation claims.

(19) research, to be carried out in conjunction with the Secretary of Housing and Urban Development, and the Secretary of the Department of Energy for the purpose of developing—

(A) methods for assessing the potential for radon contamination of new construction, including (but not limited to) consideration of the moisture content of soil, permeability of soil, and radon content of soil; and

(B) design measures to avoid indoor air pollution, and

(20) research, to be carried out in conjunction with the Secretary of Transportation, for the purposes of—

(A) assessing the potential for indoor air contamination in public and private transportation; and

(B) designing measures to avoid such indoor air contamination.

(c) TECHNOLOGY DEMONSTRATION PROGRAM.—(1) The Administrator may enter into cooperative agreements or contracts, or provide financial assistance in the form of grants, to public agencies and authorities, nonprofit institutions and organizations, employee advocate organizations, local educational institutions, or other persons, to demonstrate practices, methods, technologies, or processes which may be effective in controlling sources or potential sources of indoor air contamination, preventing the occurrence of indoor air contamination, and reducing exposures to indoor air contamination.

(2) The Administrator may assist demonstration activities under paragraph (1) of this subsection only if—

(A) such demonstration activity will serve to demonstrate a new or significantly improved practice, method, technology or process or the feasibility and cost effectiveness of an existing, but unproven, practice, method, technology, or process and will not duplicate other Federal, State, local, or commercial efforts to demonstrate such practice, method, technology, or process;

(B) such demonstration activity meets the requirements of this section and serves the purposes of this Act;

(C) the demonstration of such practice, technology, or process will comply with all other laws and regulations for the protection of human health, welfare, and the environment; and

(D) in the case of a contract or cooperative agreement, such practice, method, technology, or process would not be adequately demonstrated by State, local, or private persons or in the case of an application for financial assistance by a grant, such practice, method, technology, or process is not likely to receive adequate financial assistance from other sources.

(3) The demonstration program established by this subsection shall include solicitations for demonstration projects, selection of suitable demonstration projects from among those proposed, supervision of such demonstration projects, evaluation of the results of demonstration projects, and dissemination of information on the effectiveness and feasibility of the practices, methods, technologies and processes which are proven to be effective.

(4) Within one hundred and eighty days after the date of enactment of this Act, and no less often than every twelve months thereafter, the Administrator shall publish a solicitation for proposals to demonstrate, prototype or at full-scale, practices, methods, technologies, and processes which are (or may be) effective in controlling sources or potential sources of indoor air contaminants. The solicitation notice shall prescribe the information to be included in the proposal, including technical and economic information derived from the applicant's own research and development efforts, and other information sufficient to permit the Administrator to assess the potential effectiveness and feasibility of the practice, method, technology, or process proposed to be demonstrated.

(5) Any person and any public or private nonprofit entity may submit an application to the Administrator in response to the so-

licitations required by paragraph (4) of this section. The application shall contain a proposed demonstration plan setting forth how and when the project is to be carried out and such other information as the Administrator may require.

(6) In selecting practices, methods, technologies or processes to be demonstrated, the Administrator shall fully review the applications submitted and shall evaluate each project according to the following criteria—

(A) the potential for the proposed practice, method, technology, or process to effectively control sources or potential sources of contaminants which present risks to human health;

(B) the consistency of the proposal with the recommendations provided pursuant to paragraph (8) of section 8(d);

(C) the capability of the person or persons proposing the project to successfully complete the demonstration as described in the application;

(D) the likelihood that the demonstrated practice, method, technique, or process could be applied in other locations and circumstances to control sources or potential sources of contaminants, including considerations of cost, effectiveness, and technological feasibility;

(E) the extent of financial support from other persons to accomplish the demonstration as described in the application; and

(F) the capability of the person or persons proposing the project to disseminate the results of the demonstration or otherwise make the benefits of the practice, method, or technology widely available to the public in a timely manner.

(7) The Administrator shall select or refuse to select a project for demonstration under this subsection in an expeditious manner. In the case of a refusal to select a project, the Administrator shall notify the applicant of the reasons for the refusal.

(8) Each demonstration project under this section shall be performed by the applicant, or by a person satisfactory to the applicant, under the supervision of the Administrator. The Administrator shall enter into a written agreement with each applicant granting the Administrator the responsibility and authority for testing procedures, quality control, monitoring, and other measurements necessary to determine and evaluate the results of the demonstration project.

(9) The Administrator shall enter into arrangements, wherever practicable and desirable, to provide for monitoring testing procedures, quality control, and such other measurements necessary to evaluate the results of demonstration projects or facilities intended to control sources or potential sources of contaminants.

(10) Each demonstration project under this section shall be completed within such time as is established in the demonstration plan. The Administrator may extend any deadline established under this subsection by mutual agreement with the applicant concerned.

(11) Total Federal funds for any demonstration project under this section shall not exceed 75 per centum of the total cost of such project. In cases where the Administrator determines that research under this section is of a basic nature which would not otherwise

be undertaken, or the applicant is a local educational agency, the Administrator may approve grants under this section with a matching requirement other than that specified in this subsection, including full Federal funding.

(12) The Administrator shall, from time to time, publish general reports describing the findings of demonstration projects conducted pursuant to this section. Such reports shall be provided to the Indoor Air Quality Information Clearinghouse provided for in section 13 of this Act.

(d) ASSESSMENT OF SCHOOLS AND CHILD CARE FACILITIES.—(1) The Administrator shall conduct a national assessment of the seriousness and extent of indoor air contamination in buildings owned by local educational agencies and child care facilities.

(2) The Administrator shall establish an advisory group made up of representatives of school administrators, teachers, child care organizations, parents and service employees and other interested parties to provide guidance and direction in the development of the national assessment.

(3) The Administrator shall provide a report to Congress of the results of the national assessment not later than two years after the date of enactment of this Act. The report required by this paragraph shall provide such recommendations for activities or programs to reduce and avoid indoor air contamination in buildings owned by local educational agencies and in child care facilities as the Administrator determines to be appropriate.

(e) REPORT TO CONGRESS.—The Administrator shall, within twenty-four months of the date of enactment of this Act, prepare and submit to the Congress a report reviewing and assessing issues related to chemical sensitivity disorders, including multiple chemical sensitivities. The Advisory Panel established pursuant to subsection 7(c) of this Act shall review and comment on the report prior to submittal to the Congress and any such comments shall be transmitted to Congress in conjunction with the report.

(f) CLARIFICATION OF AUTHORITY.—Title IV of the Superfund Amendments and Reauthorization Act of 1986 (42 U.S.C. 7401 note) is repealed.

MANAGEMENT PRACTICES AND VENTILATION STANDARDS

SEC. 6. (a) TECHNOLOGY AND MANAGEMENT PRACTICE ASSESSMENT BULLETINS.—(1) The Administrator shall publish bulletins providing an assessment of technologies and management practices for the control and measurement of contaminants in the air indoors.

(2) Bulletins published pursuant to this subsection shall, at a minimum—

(A) describe the control or measurement technology or practice;

(B) describe the effectiveness of the technology or practice in control or measurement of indoor air contaminants and, to the extent feasible, the resulting reduction in risk to human health;

(C) assess the feasibility of application of the technology or practice in buildings of different types, sizes, ages, and designs;

(D) assess the cost of application of the technology or practice in buildings of different types, sizes, ages, and designs, including capital and operational costs; and

(E) assess any risks to human health that such technology or practice may create.

(3) The Administrator shall establish and utilize a standard format for presentation of the technology and management practice assessment bulletins. The format shall be designed to facilitate assessment of technologies or practices by interested parties, including homeowners and building owners and managers.

(4) The Administrator shall provide that bulletins published pursuant to this subsection shall be published on a schedule consistent with the publication of health advisories pursuant to subsection 7(b) of this Act to the extent practicable.

(5) In development of bulletins pursuant to this subsection, the Administrator shall provide for public review and shall consider public comment prior to publication of bulletins.

(6) Bulletins published pursuant to this subsection shall be provided to the Indoor Air Quality Information Clearinghouse provided for in section 13 of this Act and, to the extent practicable, shall be made available to architecture, design, and engineering firms and building owners and managers and to organizations representing such parties.

(b) MODEL BUILDING MANAGEMENT PRACTICES TRAINING.—(1) Within twelve months of the date of enactment of this Act, the Director of the National Institute of Occupational Safety and Health, in consultation with the Administrator of the General Services Administration and the Administrator, shall develop an indoor training course providing training in—

(A) principles, methods, and techniques related to ventilation system operation and maintenance including applicable ventilation guidelines and standards;

(B) maintenance of records concerning indoor air quality, including maintenance of ventilation systems, complaints of indoor air quality, and actions taken to address indoor air quality problems;

(C) health threats posed by indoor air pollutants, including a knowledge of health advisories published pursuant to this Act and other information concerning contaminant levels;

(D) identification of potential indoor air pollutant sources and options for reducing exposures to contaminants;

(E) special measures which may be necessary to reduce indoor air contaminant exposures in new buildings and in portions of buildings which have been renovated or substantially refurbished within the past six months; and

(F) special measures which may be necessary to reduce exposures to contaminants associated with pesticide applications, installation of products, furnishings, or equipment, and cleaning operations.

(2) Within twenty-four months of the date of enactment of this Act, the Director of the National Institute for Occupational Safety and Health shall provide, or contract for the provision of, training courses pursuant to paragraph (1) of this subsection sufficient, at a

minimum, to assure training on a schedule consistent with the requirements of paragraph 9(f)(2).

(3) The Director of the National Institute of Occupational Safety and Health, or firms or organizations operating under contract with such Administrator, are authorized to establish a fee for training pursuant to this subsection. Fees shall be in an amount not to exceed the amount necessary to defray the costs of the training program.

(4) The Director of the National Institute of Occupational Safety and Health, in consultation with the Administrator of the General Services Administration, and the Administrator, shall prepare a report to Congress within forty-eight months of the date of enactment of this subsection assessing the training program pursuant to this subsection and making recommendations concerning the application of training requirements to classes and types of buildings not covered by this subsection.

(c) VENTILATION PROGRAM.—(1) The Administrator shall conduct a progam to analyze the adequacy of existing ventilation standards and guidelines to protect the public from indoor air contaminants.

(2) The Administrator shall—

(A) identify and describe ventilation standards adopted by state and local governments and professional organizations, including the American Society of Heating, Refrigerating and Air Conditioning Engineers;

(B) determine the adequacy of the standards for protecting public health and promoting worker productivity;

(C) assess the costs of compliance with such standards;

(D) determine the degree to which such standards are being adopted and enforced;

(E) identify the extent to which buildings are being operated in a manner which achieves the standard; and

(F) assess the potential for such standards to complement controls over specific sources of contaminants in reducing indoor air contamination.

(3) The Administrator shall submit to the Congress, within thirty-six months of the enactment of this Act a report which shall—

(A) describe the ventilation program carried out under this Act; and

(B) make recommendations concerning—

(i) the establishment of ventilation standards which protect public health and take worker comfort and energy conservation goals into account; and

(ii) ensuring that adequate ventilation standards are being adopted and that buildings are being operated in a manner which achieves the standard.

INDOOR AIR CONTAMINANT HEALTH ADVISORIES

SEC. 7. (a) LIST OF CONTAMINANTS.—(1) Within two hundred and forty days after the date of enactment of this Act, the Administrator shall prepare and publish in the Federal Register a list of the contaminants (hereinafter referred to as listed contaminants) which are known to occur (or which are expected to occur) in

indoor air at levels which may reasonably be expected to have an adverse impact on human health. The list may include combinations or mixtures of contaminants and may refer to such combinations or mixtures by a common name.

(2) The Administrator shall from time to time and as necessary to carry out the provisions of this Act, but not less often than biennially, review and revise such list adding other contaminants pursuant to the requirements of this Act.

(3) The list provided for in paragraph (1) of this subsection shall include, at a minimum: benzene, biological contaminants, carbon monoxide, environmental tobacco smoke, formaldehyde, lead, methylene chloride, nitrogen oxide, particulate matter, asbestos, polycyclic aromatic hydrocarbons (PAHs), and radon.

(4) In development of the list provided for in paragraph (1) of this subsection or in revision of such list pursuant to paragraph (2), the Administrator shall consult with the advisory panel provided for in subsection (c) of this section and provide for public review and shall consider public comment prior to issuance of a final list.

(5) The listing of contaminants under this subsection is not an agency rulemaking. In considering objections raised in any judicial or related action, the Administrator's decision to list a particular contaminant shall be upheld unless the objecting party can demonstrate that the decision was arbitrary or capricious or otherwise not in accordance with the law. The list of contaminants prepared in accordance with this subsection shall not be construed to indicate that those contaminants not listed are safe for human exposure or without adverse health effect.

(6) Upon application of the Governor of a State showing that a contaminant or potential contaminant in the indoor air which is not listed pursuant to paragraph (1) of this subsection may reasonably be anticipated to have an adverse effect on human health as a result of its presence in the indoor air, the Administrator shall, within ninety days, revise the list established by paragraph (1) of this subsection to include such contaminant or publish in the Federal Register the reasons for not making such a revision.

(b) CONTAMINANT HEALTH ADVISORIES.—(1) The Administrator shall, in consultation with the advisory panel, provided for in subsection (c) of this section, and after providing for public review and comment pursuant to paragraph (6), publish advisory materials addressing the adverse human health effects of listed contaminants. Such advisory materials shall, at a minimum, describe—

(A) the physical, chemical, biological, and radiological properties of the contaminant;

(B) the adverse human health effects of the contaminant in various indoor environments and in various concentrations;

(C) an analysis of the risk posed by the contaminant to human health at the full range of concentration levels, including risk to subpopulations which may be especially sensitive to exposure to the contaminant;

(D) the extent to which the contaminant, or a mixture of contaminants, is associated with a particular substance or material and emissions rates which are expected to result in varying levels of contaminant concentration in indoor air;

(E) any Technology and Management Practice Assessment Bulletin which is applicable to the contaminant and any actions which are identified for the contaminant in the National Indoor Air Quality Response Plan prepared pursuant to this Act; and

(F) any indoor air contaminant standards or related action levels which are in effect under any authority of a Federal statute or regulation, the authority of State statutes or regulations, the authority of any local government, or the authority of another country, including standards or action levels suggested by appropriate international organizations.

(2) Health advisories published pursuant to this section shall in no way limit or restrict the application of requirements or standards established under any other Federal statute.

(3) The Administrator shall establish and utilize a standard format of presentation of indoor air contaminant health advisories. The format shall be designed to facilitate public understanding of the range of risks of exposure to indoor air contaminants and shall include a summary of the research and information concerning the contaminant which is understandable to public health professionals and to those who lack training in toxicology.

(4) The Administrator shall publish health advisories for listed contaminants as expeditiously as possible. At a minimum, the Administrator shall publish not less than six advisories within eighteen months of the date of enactment of this Act and shall publish an additional six advisories within thirty-six months of the date of enactment of this Act.

(5) Health advisories shall be based on the most current available scientific and related findings or information and shall be reviewed, revised, and republished to reflect new scientific and related findings or information on a periodic basis but not less frequently than every five years.

(6) In development and revision of health advisories pursuant to this subsection, the Administrator shall provide for public review and comment, including provision of notice in the Federal Register of the intent to publish a health advisory not less than ninety days prior to publication, and shall consider public comment prior to issuance of an advisory.

(c) ADVISORY PANEL.—The Indoor Air Panel of the Environmental Protection Agency Science Advisory Board shall advise the Administrator with respect to the implementation of this section including, but not limited to, the listing of contaminants, the contaminants for which advisories should be published, the order in which advisories should be published, the content, quality, and format of advisory documents, and the revision of such documents. The Administrator shall provide that a representative of the Agency for Toxic Substances and Disease Registry, the Department of Energy Office of Health and Environmental Research, and the National Institute for Environmental Health Sciences shall participate in the work of the Board as ex officio members.

NATIONAL INDOOR AIR QUALITY RESPONSE PLAN

SEC. 8. (a) AUTHORITY.—(1) The Administrator shall, in consultation with appropriate Federal agencies, develop and publish a national indoor air quality response plan.

(2) The response plan shall provide for implementation of a range of response actions identified in subsections (b) and (c) which will result in the reduction of human exposure to indoor air contaminants listed pursuant to section 7(a) of this Act and attainment, to the fullest extent practicable, contaminant levels which are protective of human health.

(b) EXISTING AUTHORITY.—The Administrator, in consultation with appropriate Federal agencies, shall include in the plans provided for in subsection (a) of this section a description of specific response actions to be implemented based on existing statutory authorities provided in—

(1) the Clean Air Act (42 U.S.C. 7401 et seq.);

(2) the Toxic Substances Control Act (15 U.S.C. 201 et seq.);

(3) the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. 136 et seq.);

(4) the Safe Drinking Water Act (42 U.S.C. 300 et seq.);

(5) the authorities of the Consumer Product Safety Commission;

(6) the authorities of the Occupational Safety and Health Administration; and

(7) other regulatory and related authorities provided under any other Federal statute.

(c) SUPPORTING ACTIONS.—The Administrator shall include in the plans provided for in subsection (a) of this section a description of specific supporting actions including, but not limited to—

(1) programs to disseminate technical information to public health, design, and construction professionals concerning the risks of exposure to indoor air contaminants and methods and programs for reducing exposures to such contaminants;

(2) development of guidance documents addressing individual contaminants, groups of contaminants, sources of contaminants, or types of buildings or structures and providing information on measures to reduce exposure to contaminants including—

(A) the estimated cost of such measures;

(B) the technologic feasibility of such measures; and

(C) the effectiveness and efficiency of such measures.

(3) education programs for the general public concerning the health threats posed by indoor air contaminants and appropriate individual response actions;

(4) technical assistance including design and implementation of training seminars for State and local officials, and private and professional firms dealing with indoor air pollution and addressing topics such as monitoring, analysis, mitigation, building management practices, ventilation, health effects, public information and program design; and

(5) development of model building codes, including ventilation rates, for various types of buildings designed to reduce levels of indoor air contaminants.

(d) CONTENTS OF PLAN.—In describing specific actions to be taken under subsections (b) and (c) of this section, the Administrator shall—

(1) identify the contaminant or contaminants to be addressed by a particular action and to the fullest extent feasible, the relative contribution to indoor air contamination from all sources of contamination;

(2) identify the statutory basis for the action;

(3) identify the schedule and process for implementation of the action;

(4) identify contaminants, or circumstances of contamination, for which immediate action to protect public health is necessary and appropriate and describe the actions needed and the schedule for action;

(5) identify the Federal agency with jurisdiction for the specific action which will implement the action;

(6) identify the financial resources needed to implement the specific action and the source of these resources;

(7) identify contaminants, or circumstances of contamination, where existing regulatory or statutory authority is not adequate to address an identified contaminant or circumstance of contamination and recommend legislation to provide needed authority; and

(8) identify contaminants, or circumstances of contamination, where continued reduction of contamination requires development of technology or technologie mechanisms, and identify the Federal agency responsible for such development, the schedule for such development effort, and an estimate of the cost of the development effort.

(e) SCHEDULE.—Response plans provided for in subsection (a) shall be submitted to Congress within twenty-four months of enactment of this Act and biennially thereafter.

(f) REVIEW.—(1) The Administrator shall provide for public review and comment on the response plan provided for in this section, including provision of notice in the Federal Register for public review and comment not less than three months prior to submission to the Congress. The Administrator shall include in the response plan a summary of public comments.

(2) The Administrator shall provide for the review and comment on the response plan by the Council on Indoor Air Quality provided for under section 12 of this Act. The Administrator shall include in the response plan a letter and any supporting materials providing the comments of the Council on Indoor Air Quality.

(g) ASSESSMENT OF MONITORING AND MITIGATION SERVICES.—The Administrator shall include in the first plan published pursuant to this section an assessment of indoor air monitoring and mitigation services provided by private firms and other organizations, including the range of such services, the reliability and accuracy of such services, and the relative costs of such services. The assessment required by this subsection shall include a review and analysis of options for oversight of indoor air monitoring and mitigation firms and organizations, including registration, licensing, and certification of such firms and organizations and options for imposing a user fee on such firms and organizations.

FEDERAL BUILDING RESPONSE PLAN AND DEMONSTRATION PROGRAM

SEC. 9. (a) AUTHORITY.—The Administrator and the Administrator of the General Services Administration shall develop and implement a program to respond to and reduce indoor air contamination in Federal buildings and to demonstrate methods of reducing indoor air contamination in new Federal buildings.

(b) FEDERAL BUILDING RESPONSE PLAN.—(1) The Administrator of the General Services Administration, in consultation with the Administrator, the Administrator of the Occupational Safety and Health Administration, the Director, and affected Federal departments or agencies shall prepare a response plans addressing indoor air quality in Federal buildings. The plans shall, to the fullest extent practicable, be developed in conjunction with the response plans pursuant to section 8 of this Act.

(2) The response plan shall provide for implementation of a range of response actions which will result in the reduction of human exposure to indoor air contaminants listed pursuant to section 7(a) of this Act, and attainment, to the fullest extent practicable, of indoor air contaminant concentration levels which are protective of public health.

(3) Federal building response plans provided for in paragraph (1) of this subsection shall include—

(A) a list of all Federal buildings;

(B) a description and schedule of general response actions including general building management practices, product purchase guidelines, air quality problem identification practices and methods, personnel training programs, and other actions to be implemented to reduce exposures to indoor air contaminants in those buildings listed in paragraph (A);

(C) a list of individual Federal buildings listed in paragraph (A) for which there is sufficient evidence of indoor air contamination or related employee health effects to warrant assessment of the building pursuant to section 14 of this Act and a schedule for development and submittal of building assessment proposals pursuant to subsection 14(d) of this Act;

(D) a description and schedule of specific response actions to be implemented in each specific building identified in paragraph (C) and assessed pursuant to section 14 of this Act;

(E) an identification of the Federal agency responsible for funding and implementation of each response action identified in paragraphs (B) and (D); and

(F) an identification of the estimated costs of each response action identified in paragraphs (B) and (D) and the source of these resources.

(4) The response plan provided for in this subsection shall address each Federal building identified in paragraph 3(A), except that specific buildings may be exempted from coverage under this subsection. Such buildings may be exempted on the grounds of—

(A) national security;

(B) anticipated demolition or termination of Federal ownership within three years; and

(C) specialized use of a building which precludes necessary actions to reduce indoor air contamination.

(5) The plan provided for in subsection (b) shall be submitted to Congress within twenty-four months of enactment of this Act and biennially thereafter.

(6) The Administrator of the General Services Administration shall provide for public review and comment on the response plan provided for in this section, including provision of notice in the Federal Register not less than three months prior to submission to the Congress.

(7) The response plan shall include a summary of public comments. The Council on Indoor Air Quality, provided for under section 12 of this Act, shall review and comment on the plan and such comments and any supporting materials shall be included in the plan.

(c) INDOOR AIR QUALITY RESERVE.—(1) The Administrator of the General Services Administration shall reserve 0.5 per centum of any funds used for construction of new Federal buildings for design and construction of measures to reduce indoor air contaminant concentrations within such buildings.

(2) Measures which may be funded with the reserve provided for in this subsection may include, but are not limited to—

(A) development and implementation of general design principles intended to avoid or prevent contamination of indoor air;

(B) design and construction of improved ventilation techniques or equipment;

(C) development and implementation of product purchasing guidelines;

(D) design and construction of contaminant detection and response systems;

(E) development of building management guidelines and practices; and

(F) training in building and systems operations for building management and maintenance personnel.

(3) Upon completion of construction of each Federal building covered by this section, the Administrator of the General Services Administration shall file with the Administrator, with the Clearinghouse established under section 13 of this Act, and with the Council established under section 12 of this Act, a report describing the uses made of the reserve provided for in this subsection. Such report shall be in sufficient detail to provide design and construction professionals with models and general plans of various indoor air contaminant reduction measures adequate to assess the appropriateness of such measures for application in other buildings.

(4) The Administrator of the General Services Administration, with the concurrence of the Administrator, may exempt a planned Federal building from the requirements of this subsection if he finds that such exemption is required on the grounds of national security or that the intended use of the building is not compatible with the authority of this section.

(d) NEW EPA BUILDING.—Any new building constructed for use by the Environmental Protection Agency as headquarters shall be designed, constructed, maintained, and operated as a model to demonstrate principles and practices for protection of indoor air quality.

(e) BUILDING COMMENTS.—(1) The Administrator of the General Services Administration, in consultation with the Administrator, the Administrator of the Occupational Safety and Health Administration, and the Director, shall provide, by regulation, a method and format for filing comments and complaints concerning indoor air quality in Federal buildings by workers in such buildings and by the public.

(2) A listing of each such filing and an analysis of such filings shall be included in each response plan prepared pursuant to this section. Such listing shall preserve the confidentiality of individuals making filings under this section.

(3) Regulations implementing this subsection shall be promulgated at the earliest possible date, but not later than twenty-four months from the date of enactment of this Act.

(f) BUILDING VENTILATION AND MANAGEMENT TRAINING.—(1) Within six months of the date of enactment of this Act the Administrator of the General Services Administration shall designate, or require that a lessee designate, an Indoor Air Quality Coordinator for each Federal building which is owned or leased by the General Services Administration. An Indoor Air Quality Coordinator shall not serve more than one building.

(2) Within forty-eight months of the date of enactment of this Act, each Indoor Air Quality Coordinator shall complete the indoor air training course operated pursuant to section 6(b) of this Act.

(3) In any case where the Administrator of the General Services Administration finds that a lessee has failed to designate and train an Indoor Air Quality Coordinator pursuant to the requirements of this Act, the Administrator of the General Services Administration shall not reestablish a lease for such building.

STATE AND LOCAL INDOOR AIR QUALITY PROGRAMS

SEC. 10. (a) MANAGEMENT AND ASSESSMENT STRATEGY DEMONSTRATION.—(1) The Governor of a State may apply to the Administrator for a grant to support demonstration of the development and implementation of a management strategy and assessment with respect to indoor air quality within such State.

(2) State indoor air quality management strategies shall—

(A) identify a lead agency and provide an institutional framework for protection of indoor air quality;

(B) identify and describe existing programs, controls or related activities concerning indoor air quality within State agencies including regulations, educational programs, assessment programs, or other activities;

(C) identify and describe existing programs, controls, or related activities concerning indoor air quality of local and other sub-State agencies and assure coordination among local, State, and Federal agencies involved in indoor air quality activities in the State; and

(D) assure coordination of indoor air quality programs with ambient air quality programs and related activities.

(3) State indoor air quality assessment programs shall—

(A) identify indoor air contaminants of concern and, to the extent practicable, assess the seriousness and the extent of

indoor air contamination by contaminants listed in section 7(a) of this Act;

(B) identify the classes or types of buildings or other indoor environments in which indoor air contaminants pose the most serious threat to human health;

(C) if applicable, identify geographic areas in the State where there is a reasonable likelihood of indoor air contamination as a result of the presence of contaminants in the ambient air or the existence of sources of a contaminant;

(D) identify methods and procedures for indoor air contaminant assessment and monitoring;

(E) provide for periodic assessments of indoor air quality and identification of indoor air quality changes and trends; and

(F) establish methods to provide information concerning indoor air contamination to the public and to educate the public and interested groups, including building owners and design and engineering professionals, about indoor air contamination.

(4) As part of a management strategy and assessment pursuant to this subsection, the applicant may develop contaminant action levels, guidance, or standards and may draw on health advisories developed pursuant to section 7 of this Act.

(5) States which are selected to demonstrate the development of management and assessment strategies shall provide a management strategy and assessment pursuant to subsections (2) and (3) to the Administrator within thirty-six months of selection and shall certify to the Administrator that the strategy and assessment meet the requirements of this Act.

(6) States shall provide for public review and comment on the management strategy and assessment prior to submission of such strategy and assessment to the Administrator.

(b) RESPONSE PROGRAMS.—(1) A Governor of a State or the executive officer of a local air pollution control agency may apply to the Administrator for grant assistance to develop a response program designed to reduce human exposure to an indoor air contaminant or contaminants in the State, or in a specific class or type of building in that State, or in a specific geographic area of that State.

(2) A response program shall—

(A) address a contaminant or contaminants listed pursuant to section 7(a) of this Act;

(B) identify existing data and information concerning the contaminant or contaminants to be addressed, the class or type of building to be addressed, and the specific geographic area to be addressed;

(C) describe and schedule the specific actions to be taken to reduce human exposure to the identified contaminant or contaminants including the adoption and enforcement of any ventilation standards;

(D) identify the State or local agency or public organization which will implement the response actions;

(E) identify the Federal, State, and local financial resources to be used to implement the response program; and

(F) provide for the assessment of the effectiveness of the response program.

(3) As part of a response program pursuant to this subsection, an applicant may develop contaminant action levels, guidance, or standards based on health advisories developed pursuant to section 7 of this Act.

(4) As part of a response program pursuant to this subsection, an applicant may develop a standard establishing a ventilation rate or rates for a class or classes of buildings including development assessment and compliance programs needed to implement the standard.

(5) As part of the response program pursuant to this subsection, an applicant may develop a response plan addressing indoor air quality in State and local government buildings. Such plans shall, to the fullest extent practicable, be consistent with response plans developed pursuant to section 9 of this Act.

(c) GRANT MANAGEMENT.—(1) Grants under subsection (a)(1) of this subsection shall not be less than $75,000 for each fiscal year.

(2) In selecting States for demonstration and implementation of management strategies and assessments under subsection (a)(1) the Administrator shall consider—

(A) the previous experience of the State in addressing indoor air quality issues;

(B) the seriousness of the indoor air quality issues identified by the State; and

(C) the potential for demonstration of innovative management or assessment measures which may be of use to other States.

(3) In selecting States for demonstration of management strategies and assessments under subsection (a)(1), the Administrator shall focus resources to assure that sufficient funds are available to selected States to provide for the development of comprehensive and thorough management strategies and assessments in each selected State and to adequately demonstrate implementation of such strategies and assessments.

(4) Grants under subsection (b)(1) of this section shall not exceed $250,000 per fiscal year and shall be available to the State for a period of not to exceed three years.

(5) In selecting response programs developed under subsection (b) for grant assistance, the Administrator shall consider—

(A) the potential for the response program to bring about reductions in indoor air contaminant levels;

(B) the contaminants to be addressed, giving priority to contaminants for which health advisories have been developed pursuant to section 7 of this Act;

(C) the type of building to be addressed, giving priority to building types in which substantial human exposures to indoor air contaminants occur;

(D) the potential for development of innovative response measures or methods which may be of use to other States or local air pollution control agencies; and

(E) the State indoor air quality management strategy and assessment, giving priority to States with complete indoor air management strategies and assessments.

(6) The Federal share of grants under subsections (a) and (b) of this section shall not exceed 75 per centum of the costs incurred in

demonstration and implementation of such activities and shall be made on the condition that the non-Federal share is provided from non-Federal funds.

(7) Funds granted pursuant to subsections (a) and (b) of this section in a fiscal year shall remain available for obligation for the next fiscal year in which obligated and for the next following fiscal year.

(8) No grant shall be made under this section in any fiscal year to a State or local air pollution control agency which in the preceding year received a grant under this section unless the Administrator determines that such agency satisfactorily implemented such grant activities in such preceding fiscal year.

(9) States and air pollution control agencies shall provide such information in applicants for grant assistance and pertaining to grant funded activities as the Administrator requires.

OFFICE OF INDOOR AIR QUALITY

SEC. 11. (a) ESTABLISHMENT.—The Administrator shall establish an Office of Indoor Air Quality within the Office of Air and Radiation at the Environmental Protection Agency.

(b) RESPONSIBILITIES.—The Office of Indoor Air Quality shall—

(1) list indoor air contaminants and develop health advisories pursuant to section 7 of this Act;

(2) develop national indoor air quality response plans as provided for in section 10 of this Act;

(3) manage Federal grant assistance provided to air pollution control agencies under section 8 of this Act;

(4) assure the coordination of Federal statutes and programs administered by the Agency relating to indoor air quality and reduce duplication or inconsistencies among these programs;

(5) work with other Federal agencies, including the Occupational Safety and Health Administration and the National Institute for Occupational Safety and Health, to assure the effective coordination of programs related to indoor air quality; and

(6) work with public interest groups and the private sector in development of information related to indoor air quality including the health threats of human exposure to indoor air contaminants, the development of technologies and methods to control such contaminants, and the development of programs to reduce contaminant concentrations.

COUNCIL ON INDOOR AIR QUALITY

SEC. 12. (a) AUTHORITY.—There is established a Council on Indoor Air Quality.

(b) RESPONSIBILITIES.—The Council on Indoor Air Quality shall—

(1) provide for the full and effective coordination of Federal agency activities relating to indoor air quality;

(2) provide a forum for resolution of conflicts or inconsistencies in policies or programs related to indoor air quality;

(3) review and comment on the national indoor air response program developed pursuant to section 8 of this Act and the Federal Building Response Plan developed pursuant to section 9(b); and

(4) prepare a report to Congress pursuant to subsection (d) of this subsection.

(c) ORGANIZATION.—(1) The Council on Indoor Air Quality shall include senior representatives of Federal agencies involved in indoor air quality programs including—

(A) the Environmental Protection Agency;
(B) the Occupational Safety and Health Administration;
(C) the National Institute of Occupational Safety and Health;
(D) the Department of Health and Human Services;
(E) the Department of Housing and Urban Development;
(F) the Department of Energy;
(G) the Department of Transportation;
(H) the Consumer Product Safety Commission; and
(I) the General Services Administration.

(2) The Environmental Protection Agency shall chair the Council in the two years following enactment of this Act. In each subsequent year, members of the Council shall select the chair for that year.

(3) The Council shall be served by a staff to include an Executive Director and not less than three full-time equivalent employees.

(d) REPORT TO CONGRESS.—(1) The Council shall submit to the Congress, within eighteen months of enactment of this Act, and biennially thereafter, a report which shall—

(A) describe and assess the seriousness, extent, and characteristics of indoor air contamination throughout the country;

(B) summarize the major research issues concerning the protection of indoor air quality, describe the research accomplishments of Federal agencies over the previous two years, and provide an agenda of indoor air quality research for individual Federal agencies over a three-year period;

(C) summarize actions taken pursuant to this Act over the previous year, including publication of health advisories, implementation of national and Federal building response plans, and assistance to States;

(D) provide a general description of the activities to be conducted by Federal agencies to address indoor air quality problems over the following three-year period; and

(E) make recommendations for any actions needed to assure the quality of indoor air, including recommendations relating to institutional structures, funding, and legislation.

(2) The Council shall provide for public review and comment on the report required by this subsection.

INDOOR AIR QUALITY INFORMATION CLEARINGHOUSE

SEC. 13. (1) The Administrator is authorized and directed to establish a national indoor air quality clearinghouse to be used to disseminate indoor air quality information to other Federal agencies, State, and local governments, and private organizations and individuals.

(2) The clearinghouse shall be a repository for reliable indoor air quality related information to be collected from and made available to government agencies and private organizations and individuals. At a minimum, the clearinghouse established by this section shall

make available reports, programs, and materials developed pursuant to the requirements of this Act.

(3) The clearinghouse shall operate a toll-free "hotline" on indoor air quality which shall be available to provide to the public general information about indoor air quality and general guidance concerning response to indoor air quality contamination problems.

(4) The Administrator may provide for the design, development, and implementation of the clearinghouse through a contractual agreement with a nonprofit organization.

BUILDING ASSESSMENT DEMONSTRATION

SEC. 14. (a) AUTHORITY.—(1) The Director of the National Institute for Occupational Safety and Health shall, in consultation with the Administrator, implement a Building Assessment Demonstration Program to support development of methods, techniques, and protocols for assessment of indoor air contamination in nonresidential, nonindustrial buildings and to provide assistance and guidance to building owners and occupants on measures to reduce indoor air contamination.

(2) In implementation of this section, the Director shall have the authority to conduct on-site assessments of individual buildings, including Federal, State, and municipal buildings.

(3) Nothing in this section shall in any way limit or constrain existing authorities pursuant to the Occupational Safety and Health Act of 1970 (29 U.S.C. 651).

(b) ASSESSMENT ELEMENTS.—Assessments of individual buildings conducted pursuant to this section shall, at a minimum, provide—

(A) an identification of suspected contaminants in the air in the building and the level of such contaminants;

(B) an assessment of the probable sources of contaminants in the air in the building;

(C) a review of the nature and extent of health concerns and symptoms identified by building occupants;

(D) an assessment of the probable association of indoor air contaminants with the health and related concerns of building occupants including assessment of occupational and environmental factors which may relate to the health concerns;

(E) identification of appropriate measures to control contaminants in the air in the building, to reduce the concentration levels of contaminants, and to reduce exposure to contaminants; and

(F) evaluation of the effectiveness of response measures in control and reduction of contaminants and contaminant levels, the change in occupant health concerns and symptoms, the approximate costs of such measures, and any additional response measures which may reduce occupant's health concerns.

(c) ASSESSMENT REPORTS.—(1) The Director shall prepare—

(A) a preliminary report of each building assessment which shall document findings concerning assessment elements (A) through (E) of subsection (b); and

(B) a final report which shall provide an overall summary of the building assessment including information on the effective-

ness and cost of response measures, and the potential for application of response measures to other buildings.

(2) Preliminary assessment reports shall be prepared not later than one hundred and eighty days after the selection of a building for assessment. Final assessment reports shall be prepared not later than one hundred and eighty days after completion of the preliminary report.

(3) Preliminary and final reports shall be made available to building owners, occupants, and the authorized representatives of occupants.

(d) BUILDING ASSESSMENT PROPOSAL.—(1) The Director shall consider individual buildings for assessment under this section in response to a proposal identifying the building and the building owner and providing preliminary, background information about the nature of the indoor air contamination, previous responses to air contamination problems, and the characteristics, occupancy, and uses of the building.

(2) Building assessment proposals may be submitted by a building owner or occupants or the authorized representatives of building occupants, including the authorized representatives of employees working in a building.

(e) BUILDING ASSESSMENT SELECTION.—(1) In selection of buildings to be assessed under this section, the Director shall consider—

(A) the seriousness and extent of apparent indoor air contamination and human health effects of such contamination;

(B) the proposal for a building assessment submitted pursuant to subsection (d) of this section;

(C) the views and comments of the building owners;

(D) the potential for the building assessment to expand knowledge of building assessment methods including identification of contaminants, assessment of sources, and development of response measures; and

(E) the listing of a building pursuant to paragraph (C) of section 9(b)(3).

(2) The Director shall provide a preliminary response and review of building assessment proposals to applicants and the applicable building owner within sixty days of receipt of a proposal and, to the extent practicable, shall provide a final decision concerning selection of a proposal within one hundred and twenty days of submittal.

(f) BUILDING ASSESSMENT SUPPORT.—(1) The Director may enter into agreements with private individuals, firms, State and local governments, or academic institutions for services and related assistance in conduct of assessments under the authority of this section.

(2) The Director may enter into agreements with other Federal agencies for the assignment of Federal employees to a specific building assessment project for periods of up to one hundred and eighty days.

(g) SUMMARY REPORT.—(1) The Director shall provide, on an annual basis, a report on the implementation of this section to the Administrator of the Environmental Protection Agency and to the Council on Indoor Air Quality established pursuant to section 12 of this Act.

(2) The Director shall, from time to time and in consultation with the Administrator, publish general reports containing materials, information, and general conclusions concerning assessments conducted pursuant to this section. Such reports may address concerns related to remediation of indoor air contamination problems, assessment of health related concerns, and prevention of such problems through improved design, materials and product specifications, and management practices.

(3) Reports prepared pursuant to this subsection and subsection (c) of this section shall be provided to the Indoor Air Quality Information Clearinghouse provided for in section 13 of this Act and, to the extent practicable, such reports shall be made available to architectural, design and engineering firms and to organizations representing such firms.

STATE AND FEDERAL AUTHORITY

SEC. 15. Nothing in this Act shall be construed, interpreted, or applied to preempt, displace, or supplant any other State or Federal law, whether statutory or common or any local ordinance.

AUTHORIZATIONS

SEC. 16. (a)(1) For the purpose of carrying out sections 5, 6, and 7 of this Act there is authorized to be appropriated $20,000,000 for each of the fiscal years ending September 30, 1990, 1991, 1992, 1993, and 1994. Of such sums appropriated, one quarter shall be reserved for implementation of section 7 of this Act and one quarter shall be reserved for implementation of section 5(c) of this Act.

(2) For the purpose of carrying out sections 8, 9, 11 and 13 there is authorized to be appropriated $10,000,000 for each of the fiscal years ending September 30, 1990, 1991, 1992, 1993, and 1994. Of such sums appropriated, one-fifth shall be reserved for implementation of section 13 and one-fifth shall be reserved for implementation of section 9.

(3) For the purpose of carrying out section 10 of this Act, there is authorized to be appropriated $12,000,000 for each of the fiscal years ending September 30, 1990, 1991, 1992, 1993, and 1994. Of such sums appropriated, one-third shall be reserved for the purpose of carrying out section 10(b) of this Act.

(4) For the purpose of carrying out section 12 of the Act there is authorized to be appropriated $1,500,000 for each fiscal year ending September 30, 1990, 1991, 1992, 1993, and 1994.

(5) For the purpose of carrying out section 14 of this Act there is authorized to be appropriated $5,000,000 per year for each fiscal year ending September 30, 1990, 1991, 1992, 1993, and 1994.

CHANGES IN EXISTING LAW

Section 12 of Rule XXVI of the Standing Rules of the Senate requires publication of any changes in existing law by the reported bill. S. 657 repeals title IV of the Superfund Amendments and Reauthorization Act of 1986.

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